

Advanced Rigid Ablative TPS

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Heritage ablative TPS materials using Viking or Pathfinder era materials are at or near their performance limits and will be inadequate for future missions. Significant advances in TPS materials technology are needed in order to enable any subsequent human exploration missions. This poster summarizes some recent progress at NASA in developing families of advanced rigid/conformable and flexible ablators that could potentially be used for thermal protection in planetary entry missions. In particular the effort focuses technologies required to land heavy (~40 metric ton) masses on Mars to facilitate future exploration plans.